

What is claimed:

1 1. Apparatus for producing a traceable analog version of a digital work,
2 comprising:

3 means for reading sequential data objects of said digital work, at least one of
4 said data objects including multiple members, each of the multiple members
5 representing a distinct analog output signal; and

6 means for selecting one member from among the multiple members for the at
7 least one of said data objects according to a digital identifier for said apparatus; and

8 means of transforming the selected data objects, including the one member,
9 into an analog signal;

10 wherein said digital identifier is coded by the selection of the one member from
11 each of the at least one of said data objects.

1 2. Apparatus according to claim 1 wherein:

2 a plurality of the data objects include multiple members;

3 said digital identifier is a multi-digit value that is unique to said apparatus; and

4 the means for selecting associates each digit of the digital identifier with a
5 respective one of the data objects having multiple members and selects one of the
6 multiple members from each data object responsive to the digit.

1 3. Apparatus according to claim 2 wherein said digital identifier is binary
2 and each of the data objects having multiple members has two members.

1 4. Apparatus according to claim 3 wherein the digital identifier includes a
2 binary value that is encrypted using a private key.

1 5. Apparatus according to claim 1 wherein said digital work is a DVD-
2 Video title.

1 6. Apparatus according to claim 1 wherein said digital work is a software
2 game.

1 7. Apparatus according to claim 1 wherein at least one of the data objects
2 includes only one member and the means for transforming transforms all of the data
3 objects having only one member.

1 8. A method for tracing an analog copy of a digital work to apparatus that
2 produced said analog copy, comprising the steps of:

3 a. determining the original digital work from which said analog copy was
4 produced, the original digital work including a plurality of sets of digital objects, each
5 digital object including a set of members;

6 b. determining a sequence of data objects that produced said analog copy,
7 each data object corresponding to a respective segment of the analog copy;

8 c. comparing the segments of the analog copy to the plurality of sets of
9 data objects of said original digital work to determine if each segment corresponds to
10 a data object having a plurality of members and, for each such data object,
11 determining which of said plurality of members corresponds to the segment in the
12 analog work;

13 d. creating a digital identifier from a sequence of the respective members
14 that corresponds to the respective segments of the analog work;

15 e. using said digital identifier to identify the apparatus that made the analog
16 copy of the digital work.

1 9. A method according to claim 8, wherein the digital identifier is
2 encrypted using a private key and the step of using the digital identifier to identify the

3 apparatus that made the analog copy of the digital work includes the step of applying a
4 corresponding public key to the digital identifier to recover a value representing the
5 identity of the apparatus.

1 10. A method according to claim 8, wherein said digital work is a DVD-
2 Video Title.

1 11. A method according to claim 8, wherein said digital work is a software
2 game.

1 12. A method according to claim 8, wherein said apparatus is assigned to at
2 least one custodian, and the digital identifier is also used to identify said at least one
3 custodian.

1 13. Apparatus for producing a copy of a digital work that is traceable to an
2 agent responsible for the copy of the digital work and that is configured to produce
3 analog versions of the copy of the digital work which are traceable to a particular
4 player, comprising:

5 means for receiving a plurality of sequential data objects of said digital work, at
6 least one of said sequential data objects having a corresponding alternate data object
7 and least one of said sequential data objects including a plurality of members;

8 means for writing a plurality of the sequential data objects and alternate data
9 objects to a writable medium, said means for writing including means for selecting
10 one of said at least one data object and said alternate object to be written to the
11 writable medium responsive to an identifier identifying said agent;

12 wherein at least one of the data objects written to said writable medium
13 includes a plurality of members.

1 14. Apparatus according to claim 13 wherein said digital work is a DVD-
2 Video title.

- 1 15. Apparatus according to claim 13 wherein said digital work is a software
2 game.